

Application No.: 09/989,974

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Docket No.: 251002009300

**AMENDMENTS TO THE CLAIMS**

Please cancel claims 15 to 17, without prejudice.

This listing of claims will replace all prior versions, and listing, of claims in the application.

1. (previously presented) A method for producing a protein suitable for X-ray crystallographic analysis, comprising  
synthesizing a protein using a cell-free protein synthesis system comprising a cell extract, a nucleic acid coding for said protein, and amino acids for the substrate of said protein,  
wherein said amino acids comprise at least one amino acid comprising a heavy atom, and  
wherein said amino acid comprising the heavy atom is introduced into the synthesized protein at an introduced rate of at least 80%, thereby rendering the protein suitable for x-ray crystallographic analysis.

2. (original) The method of claim 1, wherein said cell-free protein synthesis system consists essentially of an internal dialysate and an external dialysate through a dialysis membrane, wherein said internal dialysate comprises said cell extract and said nucleic acid coding for said protein, and wherein said amino acids for substrates of said protein comprising said internal dialysate and/or said external dialysate.

3. (original) The method of claim 1, wherein said cell extract is an extract of *Escherichia coli*, thermophilic bacteria or yeast.

4. (original) The method of claim 3, wherein said cell extract is a concentrated extract of *Escherichia coli* S30 cell extract fraction.

5. (original) The method of claim 2, wherein said external dialysate further comprises an ATP regenerating system, a high-molecular weight absorbent and a reducing agent, and wherein

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